

## PATENT ABSTRACTS OF JAPAN

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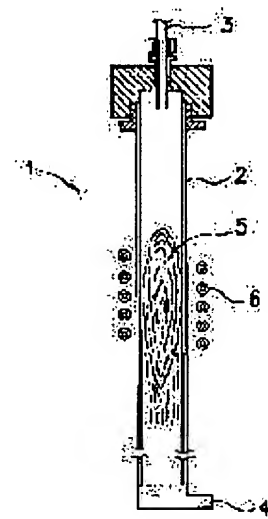
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## (54) FLUORESCENT SUBSTANCE AND ITS PRODUCTION

## (57)Abstract:

PURPOSE: To obtain a fluorescent substance suitable for use thereof in a fluorescent display device driven at a low driving voltage of =1kV and provide a method for producing the fluorescent substance.

CONSTITUTION: This method for producing a fluorescent substance is to introduce a raw substance for the fluorescent substance or the fluorescent substance in a suspended state in a carrier gas into the interior of a pipe 2 in a high vacuum state, provide a radio frequency (RF) coil 6 on the outer periphery of the pipe 2 surrounding a heating zone 5 of the pipe 2, pass the carrier gas through the heating zone 5, heat the carrier gas with the RF coil 6, produce a high-temperature plasma in the heating zone 5, keep the plasma at a high temperature of 10000 to 15000°C which rapidly lowers outside the heating zone 5 producing the plasma, quickly heat particles of the fluorescent substance or raw material therefor in a mutually separated state and then quickly cool the particles. The resultant fluorescent substance is a spherical form having a constant and uniform outside diameter within the range of =1 $\mu$ m Since the fluorescent substance is hardly aggregated when formed into a film and the filling density is high, the resistance is low. The fluorescent substance is good in



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crystallinity and uniformly contains a sufficient amount of luminous centers and is suitable for use thereof in a fluorescent display device driven at a low driving voltage of  $\approx 1\text{kV}$ .

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